

From the INTERNATIONAL BUREAU

**PCT**

NOTIFICATION OF TRANSMITTAL  
OF COPIES OF TRANSLATION  
OF THE INTERNATIONAL PRELIMINARY REPORT  
ON PATENTABILITY  
(CHAPTER I OR CHAPTER II  
OF THE PATENT COOPERATION TREATY)  
(PCT Rules 44bis.3(c) and 72.2)

|                                                                |                   |                                          |       |                        |
|----------------------------------------------------------------|-------------------|------------------------------------------|-------|------------------------|
| To:                                                            | Vorteiler:        | WV.:                                     | Ent.: | Mand.:                 |
| SCHNEIDER, Uwe<br>Holbeinstrasse 27<br>59423 Unna<br>ALLEMAGNE | zu den<br>Akten   | Eingegangen am:                          |       | Kont-<br>nis-<br>nahme |
|                                                                | Beauf.:           | 13. Sep. 2006                            |       | Stellung-<br>nahme     |
|                                                                | Ges.:             | Patentanwalt<br>Dipl.-Ing. Uwe Schneider |       | Zahlung                |
|                                                                | Frist not. Frist: | Vorfrist:                                |       | Rück-<br>sprache       |

|                                                                    |                                                                            |
|--------------------------------------------------------------------|----------------------------------------------------------------------------|
| Date of mailing (day/month/year)<br>08 September 2006 (08.09.2006) | <b>IMPORTANT NOTIFICATION</b>                                              |
| Applicant's or agent's file reference<br>UDO/Polysilo              |                                                                            |
| International application No.<br>PCT/DE2004/002242                 | International filing date (day/month/year)<br>08 October 2004 (08.10.2004) |
| Applicant<br>UNIVERSITÄT DORTMUND et al                            |                                                                            |

## 1. Transmittal of the translation to the applicant.

☐

The International Bureau transmits herewith a copy of the English translation of the international preliminary report on patentability (Chapter I).

☒

The International Bureau transmits herewith a copy of the English translation of the international preliminary report on patentability (Chapter II).

## 2. Transmittal of the copy of the translation to the designated or elected Offices.

The International Bureau notifies the applicant that copies of that translation have been transmitted to the following designated or elected Offices requiring such translation:

KR

The following designated or elected Offices, having waived the requirement for such a transmittal at this time, will receive copies of that translation from the International Bureau only upon their request:

AE, AG, AL, AM, AP, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DK, DM, DZ, EA, EC, EE, EG, EP, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OA, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

## 3. Reminder regarding translation into (one of) the official language(s) of the elected Office(s).

The applicant is reminded that, where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary report on patentability (Chapter II).

It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned within the applicable time limit (Rule 74.1). See Volume II of the PCT Applicant's Guide for further details.

|                                                                                               |                                   |
|-----------------------------------------------------------------------------------------------|-----------------------------------|
| The International Bureau of WIPO<br>34, chemin des Colombettes<br>1211 Geneva 20, Switzerland | Authorized officer<br>Ellen Moyse |
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TRANSLATION

## PATENT COOPERATION TREATY

## PCT

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

|                                                                                                 |                                                                 |                                                     |
|-------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|-----------------------------------------------------|
| Applicant's or agent's file reference<br><b>UDO/Polysilo</b>                                    | FOR FURTHER ACTION<br>See Form PCT/IPEA/416                     |                                                     |
| International application No.<br><b>PCT/DE2004/002242</b>                                       | International filing date (day/month/year)<br><b>08.10.2004</b> | Priority date (day/month/year)<br><b>10.10.2003</b> |
| International Patent Classification (IPC) or national classification and IPC<br><b>G02B6/12</b> |                                                                 |                                                     |
| Applicant<br><b>UNIVERSITÄT DORTMUND</b>                                                        |                                                                 |                                                     |

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 7 sheets, including this cover sheet.

3. This report is also accompanied by ANNEXES, comprising:

a. ☒ (sent to the applicant and to the International Bureau) a total of 1 sheets, as follows:

☐ sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).

☒ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.

b. ☐ (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) \_\_\_\_\_ containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

☒ Box No. I Basis of the report

☒ Box No. II Priority

☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

☐ Box No. IV Lack of unity of invention

☒ Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

☐ Box No. VI Certain documents cited

☐ Box No. VII Certain defects in the international application

☐ Box No. VIII Certain observations on the international application

|                                         |                                   |
|-----------------------------------------|-----------------------------------|
| Date of submission of the demand        | Date of completion of this report |
| Name and mailing address of the IPEA/EP | Authorized officer                |
| Facsimile No.                           | Telephone No.                     |

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/DE2004/002242

Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language \_\_\_\_\_ which is the language of a translation furnished for the purposes of:
- ☐ international search (Rule 12.3 and 23.1(b))
- ☐ publication of the international application (Rule 12.4)
- ☐ international preliminary examination (Rule 55.2 and/or 55.3)
2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:
- ☐ the international application as originally filed/furnished
- ☒ the description:
- pages 1-16 \_\_\_\_\_ as originally filed/furnished
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☒ the claims:
- nos. 5-33 \_\_\_\_\_ as originally filed/furnished
- nos.\* \_\_\_\_\_ as amended (together with any statement) under Article 19
- nos.\* 1-4 \_\_\_\_\_ received by this Authority on 20.08.2005 with letter
- nos.\* \_\_\_\_\_ received by this Authority on of 20.08.2005
- ☒ the drawings:
- sheets 1/2, 2/2 \_\_\_\_\_ as originally filed/furnished
- sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☐ a sequence listing and/or any related table(s) -- see Supplemental Box Relating to Sequence Listing.
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (specify): \_\_\_\_\_
- ☐ any table(s) related to sequence listing (specify): \_\_\_\_\_
4. ☒ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages \_\_\_\_\_
- ☒ the claims, nos. 1-4 (filed 20.08.2005) \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (specify): \_\_\_\_\_
- ☐ any table(s) related to sequence listing (specify): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

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Box No. II

Priority

1. ☒ This report has been established as if no priority had been claimed due to the failure to furnish within the prescribed time limit the requested:
- ☒ copy of the earlier application whose priority has been claimed (Rule 66.7(a)).
- ☐ translation of the earlier application whose priority has been claimed (Rule 66.7(b)).
2. ☐ This report has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rule 64.1). Thus for the purposes of this report, the international filing date indicated above is considered to be the relevant date.
3. Additional observations, if necessary:

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

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| Box No. V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |      |     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-----|
| <b>1. Statement</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                 |      |     |
| Novelty (N)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Claims                                                                                                                                                          |      | YES |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Claims                                                                                                                                                          | 1-33 | NO  |
| Inventive step (IS)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Claims                                                                                                                                                          |      | YES |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Claims                                                                                                                                                          | 1-33 | NO  |
| Industrial applicability (IA)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Claims                                                                                                                                                          | 1-33 | YES |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Claims                                                                                                                                                          |      | NO  |
| <b>2. Citations and explanations (Rule 70.7)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                 |      |     |
| <p>1. This report makes reference to the following documents:</p> <p>D1: US 6 088 492 A (KANEKO ET AL) 11 July 2000 (2000-07-11)</p> <p>D2: KOPETZ S ET AL: "Coupling of optoelectronic modules to optical layer in printed circuit boards (PCBs)" PROCEEDINGS OF THE SPIE - THE INTERNATIONAL SOCIETY FOR OPTICAL ENGINEERING SPIE-INT. SOC. OPT. ENG USA, Vol. 4942, 30 October 2002 (2002-10-30), pages 282-286, XP002315409 ISSN: 0277-786X</p> <p>2 INDEPENDENT CLAIM 1</p> <p>2.1 The present application does not meet the requirements of PCT Article 33(1) because the subject matter of claim 1 lacks novelty (PCT Article 33(2)). Document D1 discloses (the references between parentheses refer to that document): a method for producing an electrooptical printed circuit board having a number of layers with electroconductive elements</p> |                                                                                                                                                                 |      |     |

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

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Box No. V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

and at least one optical layer with optically conductive elements, more particularly with waveguides, at least one optical layer comprising a polysiloxane material and the elements of the optical layer being structured by casting, and the mechanical link between the optical layer and the at least one layer of electroconductive printed circuit board layers being directly linked to the production of the optical layer.

- 2.2 The current invention is also not inventive in relation to D2, since the problem addressed in claim 1, that is the manufacture of a waveguide from a polymer which can withstand temperatures of 230 degrees, for example during connecting, is already mentioned and solved on page 283 of D2: "...highly transparent and temperature stable polymer foils and epoxies are used". Although polysiloxanes are not mentioned, a person skilled in the art seeking such a polymer would consider a solution such as that in D1, since that document mentions and solves the same problem using polysiloxanes (see D1, column 11, lines 62-67). It is perfectly obvious to combine the two documents, since they both address the same problem and concern methods for producing an electrooptical printed circuit board. The application therefore also fails to involve an inventive step if D2 is taken as the closest prior art.

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

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Box No. V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement

3 DEPENDENT CLAIMS 2-33

Claims 2-33 do not contain any features which, in combination with the features of any claim to which they refer, meet the PCT requirements for novelty and inventive step.

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

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## Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of:

## Box I

The newly filed claim 1 goes beyond the original disclosure of the application, since the wording "casting in a pre-structured mould" is not part of the original description (PCT Rule 70.2(c)). The newly filed sheet 1 containing claims 1-4 was therefore not taken into consideration when establishing this report.